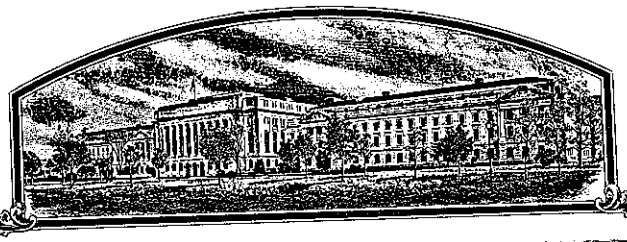
No. 8200143



THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

Kentucky Agricultural Experiment Station
University of Kentucky

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF eighteen YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC ED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, PORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT V THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT 542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

Birdsfoot Trefoil

'Fergus'

In Testimony Whereof, *I have hereunto set my hand and caused the seal of the* Plant Variety Protection Office *to be affixed at the City of* Washington *this* 30th *day of* June *in the year of our Lord one thousand nine hundred and* eighty-three.

Attest:

Kenneth H. E

Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

John R Block

Secretary of Agriculture

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, MEAT, GRAIN & SEED DIVISION

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

(Instructions on reverse)

FORM APPROVED: OMB NO. 0581-0005

No certificate for plant variety protection may be issued unless a completed application form has been received (5 U.S.C. 553).

1. NAME OF APPLICANT(S)
Kentucky Agricultural Experiment Station
University of Kentucky

2. TEMPORARY DESIGNATION
Kentucky Ecotype

3. VARIETY NAME
Fergus

4. ADDRESS *(Street and No. or R.F.D. No., City, State, and Zip Code)*
Department of Agronomy, University of Kentucky, Lexington, KY 40506

5. PHONE *(Include area code)*
(606) 257-3353

FOR OFFICIAL USE ONLY

PVPO NUMBER
8200143

6. GENUS AND SPECIES NAME
Lotus Corniculatus

7. FAMILY NAME *(Botanical)*
Leguminacea

FILING
DATE 7/16/82
TIME 10:30 [X] A.M. [ ] P.M.

8. KIND NAME
Birdsfoot trefoil

9. DATE OF DETERMINATION
August 1970

FEES RECEIVED
AMOUNT FOR FILING $ 500.00
DATE 7/16/82
AMOUNT FOR CERTIFICATE $ 250.00
DATE 2/14/83

10. IF THE APPLICANT NAMED IS NOT A "PERSON," GIVE FORM OF ORGANIZATION *(Corporation, partnership, association, etc.)*

11. IF INCORPORATED, GIVE STATE OF INCORPORATION

12. DATE OF INCORPORATION

13. NAME AND ADDRESS OF APPLICANT REPRESENATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS
Dr. Timothy H. Taylor
Department of Agronomy
University of Kentucky
Lexington, KY 40546

14. CHECK APPROPRIATE BOX FOR EACH ATTACHMENT SUBMITTED

a. [X] Exhibit A, Origin and Breeding History of the Variety *(See Section 52 of the Plant Variety Protection Act.)*

b. [X] Exhibit B, Novelty Statement

c. [X] Exhibit C, Objective Description of the Variety *(Request form from Plant Variety Protection Office.)*

d. [ ] Exhibit D, Additional Description of the Variety

15. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? *(See Section 83(a) of the Plant Variety Protection Act.)*
[ ] Yes *(If "Yes," answer items 16 and 17 below)* [X] No

16. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?
[ ] Yes [ ] No

17. IF "YES" TO ITEM 16, WHICH CLASSES OF PRODUCTION BEYOND BREEDER SEED?
[ ] Foundation [ ] Registered [ ] Certified

18. DID THE APPLICANT(S) FILE FOR PROTECTION OF THE VARIETY IN THE U.S. OR OTHER COUNTRIES?
[ ] Yes *(If "Yes," give names of countries and dates)*
[X] No

19. HAVE RIGHTS BEEN GRANTED IN THE U.S. OR OTHER COUNTRIES?
[ ] Yes *(If "Yes," give names of countries and dates)*
[X] No

20. The applicant(s) declare(s) that a viable sample of basic seeds of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Protection Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

SIGNATURE OF APPLICANT
Maurice E. Barnhart
DATE Feb 3/83

SIGNATURE OF APPLICANT
Timothy H. Taylor, Prof. of Agronomy
DATE Feb 3, 1983

FORM LMGS-470 (9-81) (Edition of 1-78 is obsolete)

Revised

Exhibit A

Origin and Breeding History of the Variety

'Fergus'

A mixture of equal parts of certified 'Empire' and imported French birdsfoot trefoil seed was sown in April 1954 as one of the treatments in a grazing experiment on the Experimental Farm in Woodford County, Kentucky. The following September, Kentucky bluegrass was sown into the trefoil stand. Four experimental pastures and a reserve area were grazed from 1955 through 1958. The reserve pasture was grazed from 1959 through 1969. During 1969, sufficient seed was harvested from the 15-year old reserve pasture for experimental testing and to make a seed-increase planting. Two acres were sown in September 1969 with Kentucky bluegrass as a seed increase field. Seed was harvested in 1970 (first generation). From 1970 through 1976, 'Kentucky ecotype' was taken to four generations ('Kentucky ecotype' was the designated name for testing). The 4th generation has been designated as breeders seed.

During seed multiplication, no variants beyond the limits defined under Exhibit C have been found and multiplication procedures will ensures that seed being sold as 'Fergus' will not be shifted in characteristics beyond presently acceptable limits for birdsfoot trefoil varieties. 'Fergus' is stable in its characteristics.

It is also confirmed that 'Fergus' meets presently acceptable levels of uniformity for birdsfoot trefoil varieties.

10-01-82

8200143

Exhibit B

Novelty Statement

'Fergus'

'Fergus' appears to be most similar to 'Carroll' in the characteristics observed. 'Fergus' differs from 'Carroll' in spring bloom date being five to seven days earlier than 'Carroll' in Iowa and Indiana. 'Fergus' also has smaller seeds than 'Carroll'.

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8200143

Table 1

Birdsfoot Trefoil Variety Trial

planted May 1979 at Ames, Iowa

1980 data

	May 28 Maturity*	Oct. 24 Stand**	May 30 Harvest 1	July 11 Harvest 2	Aug. 15 Harvest 3	Oct. 21 Harvest 4	Year Total Yield
Carroll	6.6	99	115	111	96	85	110
Viking	2.0	98	98	104	135	159	108
Macinaw	7.0	99	112	83	109	156	106
Ky. Ecotype	2.0	100	114	76	139	122	104
Leo	6.0	99	100	110	96	81	101
Dawn	4.2	97	103	78	87	156	98
Missouri 20	2.0	99	104	75	117	142	98
Maitland	1.2	95	85	89	104	115	90
Empire	4.4	98	87	78	70	112	86
C. V. %	19.20	1.69	20.75	14.56	31.28	20.08	15.67
L.S.D. .05	.84	2.11	26%	16%	45%	35%	20%

Yield Percent of Carroll and Maitland

Harvest 1: 100% = 1.65 lb./plot = 2.11 T/A
Harvest 2: 100% = 1.08 lb./plot = 1.38 T/A
Harvest 3: 100% = .23 lb./plot = .29 T/A
Harvest 4: 100% = .30 lb./plot = .38 T/A
Year Total Yield: 100% = 3.26 lb./plot = 4.17 T/A

* **Maturity:** 1 = 60% bloom, some pods 7 = 5% or less bloom

** **Stand:** Percent stand (no. of 6" units remaining out of 100 possible in 50 lineal feet of row.)

SMH/rf

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8200143

Table 2

Birdsfoot Trefoil Variety Trial

planted May 1979 at Brookston, Indiana

1980 data

	May 28 Maturity*	Oct. 6 Stand**	May 27 Harvest 1	July 2 Harvest 2	Sept. 12 Harvest 3	Year Total Yield
Carroll	8.0	79	109	94	108	104
Viking	1.4	30	87	100	70	91
Macinaw	8.8	69	84	113	218	99
Ky. Ecotype	5.4	83	82	104	152	92
Leo	8.2	75	98	105	90	100
Dawn	7.5	81	83	100	185	93
Missouri 20	5.2	70	94	109	157	102
Maitland	1.0	29	91	106	90	96
Empire	6.8	68	77	90	137	84
C. V. %	12.57	13.08	12.33	22.18	37.79	11.44
L.S.D. .05	0.9	12%	14%	30%	67%	14%

Yield Percent of Carroll and Maitland

Harvest 1: 100% = 1.76 lb./plot = 2.25 T/A

Harvest 2: 100% = 0.93 lb./plot = 1.19 T/A

Harvest 3: 100% = 0.12 lb./plot = 0.15 T/A

Year Total Yield: 100% = 2.80 lb./plot = 3.58 T/A

* **Maturity:** 1 = 80% bloom, 9 = 0% bloom

** **Stand:** Percent stand (no. of 6" units remaining out of 100 possible in 50 lineal feet of row.)

SMH/rf

Table 8. Birdsfoot Variety Trial at Ames, Iowa - Results Year after Establishment. 1978. Sown April 1977.

Variety	Vigor 4/26	Bloom 6/5	Stand % 4/26	Stand % 11/1	1978 Yields % 6/6	1978 Yields % 7/11	1978 Yields % 9/9	Total Yield % 1978
Carroll	1.8	5.0	92	90	119	105	99	109
Maitland	3.0	2.2	75	81	81	95	100	91
Leo	2.4	4.4	82	85	106	111	111	109
Viking	1.2	2.2	91	91	94	88	106	95
Empire	2.8	4.4	85	86	106	105	109	106
Mo. 20	3.6	2.0	87	89	96	108	139	111
Franco	2.6	2.2	71	83	64	78	103	78
Fergus Ky. Ecotype	4.2	3.2	90	92	87	99	134	103
Mackinaw	3.6	5.0	92	89	100	87	120	103
Dawn	3.2	3.6	89	91	102	85	103	96
C.V. %	34.16	18.70	8.71	5.01	14.54	11.23	14.85	10.28
LSD .05	1.25	0.82	9.62	5.68	17.94%	13.97%	20.85%	14.33%

Vigor 1=Best

Bloom 1=70% 5=5%

Stand 100 Possible

Yield % of Carroll & Maitland

6/6 100% = 2.21 T/A
7/11 100% = 2.18 T/A
9/9 100% = 1.37 T/A
Total Yield 100% = 5.76 T/A

Source: Jim B. Moutray, North American Plant Breeders.

Table 9. Birdsfoot Trefoil Variety Trial at Ames, Iowa. Results Second Year After Establishment. 1979.

Variety	Vigor 5/19	Bloom 6/8	1978 Yields 6/8	7/10	8/11	Total Yield % 1979
Carroll	1.6	8.8	133	108	96	125
Maitland	2.8	2.2	67	92	104	75
Leo	2.0	7.4	127	115	91	117
Viking	3.0	1.2	79	96	86	75
Empire	4.2	8.0	99	112	91	99
Missouri 20	3.2	1.4	100	122	104	103
Franco	4.2	1.6	63	107	160	81
Fergus Ky. Ecotype	3.0	2.6	133	102	121	125
Mackinaw	2.6	8.8	143	74	66	114
Dawn	2.4	5.4	127	83	66	106
C.V. % j	31.37	17.04	18.05	16.62	36.73	12.61
LSD .05	1.18	1.04	24.9%	21.7%	46.73%	16.61%

Vigor 1=Best
Bloom 1=70% 5=5%

Yield of Carroll & Maitland

6/8 100% = 2.16 T/A
7/10 100% = 0.91 T/A
8/11 100% = 0.31 T/A
Total Yield 100% = 3.48 T/A

Source: Jim B. Moutray, North American Plant Breeders

FORM APPROVED: OMB NO. 40-R3822

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, POULTRY, GRAIN & SEED DIVISION
BELTSVILLE, MARYLAND 20705

EXHIBIT C
(Trefoil)

OBJECTIVE DESCRIPTION OF VARIETY
TREFOIL (Lotus spp.)

NAME OF APPLICANT(S)
University of Kentucky

VARIETY NAME OR TEMPORARY DESIGNATION
Fergus

ADDRESS *(Street and No. or R.F.D. No., City, State, and Zip Code)*
Department of Agronomy, University of Kentucky
Lexington, Kentucky 40506

FOR OFFICIAL USE ONLY
PVPO NUMBER 8200143

Place numbers in the boxes (e.g. [0][8][9]) for the characters that best describe typical plants of this variety.

COMPARISON VARIEITES FOR USE BELOW:

1 = Viking 2 = Cascade 3 = Leo 4 = Empire 5 = Los Baños 6 = Columbia 7 = Carroll

1. SPECIES:

[1] 1 = Birdsfoot trefoil *(L. corniculatus)* 2 = Narrow leaf trefoil *(L. tenuis)*
3 = Big trefoil *(L. pedunculatus)* 4 = Other *(specify)* _____

2. MATURITY *(Spring, at 50% bloom):*

[0][5] Days earlier than ..... [4]
Maturity same as ..... [ ]
[0][5] Days later than ..... [1]
} Comparison Variety

3. PLANT *(Spring, at 50% bloom):*

[0][3][5] cm height
[ ][ ] cm width *(spaced plants - Max. spread)*

[0][5] cm shorter than ..... [1]
Height same as ..... [7]
[0][6] cm taller than ..... [4]
} Comparison Variety

[ ][ ] cm narrower than ..... [ ]
Width same as ..... [ ]
[ ][ ] cm wider than ..... [ ]
} Comparison Variety

[2] Type: 1 = Determinate *(Viking)* 2 = Indeterminate *(Empire)*

4. STEM:

[2] Habit: 1 = Decumbent *(Empire)* 2 = Semierect *(Carroll)* 3 = Erect *(Viking)*

[1] Surface: 1 = Glabrous *(Carroll)* 2 = Slightly pubescent *(Marshfield)* 3 = Pubescent *(Beaver)*

[ ] Color: 1 = Greenish 2 = Reddish

[ ] Rhizomes: 1 = absent 2 = present

5. LEAVES *(Typical terminal leaflet):*

[ ] Shape: 1 = Linear 2 = Lanceolate 3 = Linear-lanceolate 4 = Oblong 5 = Obovate
6 = Other *(specify)* _____

[ ] Surface: 1 = Glabrous 2 = Slightly pubescent 3 = Pubescent

[ ] Color: 1 = Glaucous green *(Mansfield)* 2 = Green 3 = Other *(specify)* _____

3

5. LEAVES (Cont'd):

Length shorter than . . . . . ☐
Length same as . . . . . ☐
Length longer than . . . . . ☐
} Comparison Variety

Width narrower than . . . . . ☐
Width same as . . . . . ☐
Width wider than . . . . . ☐
} Comparison Variety

6. FLOWERS:

☐ Petal Color *(freshly expanded)*: 1 = Yellow 2 = Orange 3 = Red 4 = Other *(specify)* _____

☐ Petal Pattern: 1 = Orange stripes 2 = Red stripes 3 = Other *(specify)* _____

☐ Keel Tip Color: 1 = Yellow 2 = Red 3 = Brown

☐ Calyx Teeth: Tube Length Ratio: 1 = 2:1 2 = 1:1 3 = 1:2 4 = 1:3

7. PODS:

☐ % Shattering *(Tan ripe, 35% relative humidity over sulfuric acid)*: 1 = Low *(1-10%)* 2 = Medium *(11-30%)* 3 = High *(above 30%)*

☐☐ mm length . . . . . .

☐☐ mm shorter than . . . . . ☐
Length same as . . . . . ☐
☐☐ mm longer than . . . . . ☐
} Comparison Variety

8. SEED:

[2] Shape: 1 = Oval 2 = Round 3 = Other *(specify)* (15% oval, 77% round, 8% irregular)

[3] Color *(predominately)*: 1 = Buff 2 = Light Brown 3 = Brown 4 = Dark Brown 5 = Yellowish green 6 = Olive green *(Marshfield)* 7 = Olive 8 = Dark Purple 9 = Purplish Black 10 = Nearly Black 11 = Other *(specify)* _____

[10] % *(color frequency)* Color *(specify)* light brown

[47] % *(color frequency)* Color *(specify)* brown

[43] % *(color frequency)* Color *(specify)* dark brown

[2] Speckling *(Dark spots)*: 1 = None (88%) 2 = Few (10%) 3 = Many (2%)

[124] grams per 1000 seed

[016] grams lighter than Carroll [7]
Weight same as Leo [3]
[009] grams heavier than Viking [1]
} Comparison Variety

Carroll 1.40 grams/1000 seeds
Dawn 1.32 grams/1000 seeds
Empire 1.29 grams/1000 seeds
Leo 1.26 grams/1000 seeds
Viking 1.15 grams/1000 seeds

Dawn seeds are shinier than the other varieties.

9. GROWTH:

[ ] Recovery from crown-buds as compared to stubble-buds *(cut to 7-11 cm height when coming into bloom)*: 1 = Low 2 = Same 3 = High

[ ] Growth from crown at brown pod stage: 1 = None 2 = Some 3 = Extensive

Growth Rate *(Seedling & spring growth compared when differences are most obvious)*:

	SEEDLING	CUTTING RECOVERY	SPRING	
Slower than	[1]	[1]	[1]	Comparison Variety
Same as	[4]	[ ]	[4]	
Faster than	[ ]	[4]	[ ]	

10. DISEASE, INSECT, AND NEMATODE *(0 = Unknown 1 = Susceptible 2 = Resistant)*: **APPEND TRIAL DATA**

[0]	Rhizoctonia Blight *(Rhizoctonia solani)*	[0]	Anthracnose *(Colletotrichum trifolii)*
[0]	Black Patch *(Rhizoctonia leguminicola)*	[0]	Leaf Spot *(Myrothecium verrucaria)*
[0]	Crown & Root Rot *(Macrophomina phaseoli)*	[0]	Meadow Spittlebug *(Philaenus spumarius)*
[0]	Crown & Root Rot *(Mycoleptodiscus terrestris)*	[0]	Potato Leafhopper *(Empoasca fabae)*
[0]	Crown & Root Rot *(Sclerotinia trifoliorum)*	[0]	Alfalfa Plantbug *(Adelphocoris lineolatus)*
[0]	Fusarium Blight *(Fusarium roseum)*	[0]	Trefoil Seed Chalcid *(Bruchophagus gibbus)*
[0]	Leaf Spot *(Cercospora loti)*	[0]	Rapid Plantbug *(Adelphocoris rapidus)*
[0]	Southern Blight *(Sclerotium rolfsii)*	[0]	Lygus Bug *(Lygus lineolaris)*
[0]	Leaf Spot, Stem Canker *(Stemphylium loti)*	[ ]	Other *(specify)* _____
[0]	Phomopsis Blight *(Phomopsis loti)*	[ ]	Other *(specify)* _____

COMMENTS *(If more space is needed, use page 4.)*

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11. GIVE VARIETY(S) THAT MOST CLOSELY RESEMBLE THE SUBMITTED VARIETY:

For the following characteristics indicate degree of resemblance (*D.R.*) with one of the following numbers: 1 = Submitted variety is less than, lighter, or inferior to similar variety 2 = Same as 3 = More than, darker, or superior, etc.

CHARACTER	SIMILAR VARIETY	D.R.	CHARACTER	SIMILAR VARIETY	D.R.
Leaflet shape		2	Leaf pubescence		
Internode length			Stems/plant (1st year)		
Flowers/umbel			Seeds/pod		
Pods/umbel		2	Winter hardiness	Empire	
Seed Color			Heat tolerance		
Late season forage quality			Drought tolerance		
Wet soil tolerance			Rhizoctonia solani resistance		

COMMENTS

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